

Work Order ID 51881

Tuesday, September 08, 2009 3:06:18 PM



Page 1

Item ID: D212-664-201

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Aft

Start Date: 9/8/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/29/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

PL MY

Date:

09-9-08

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D212-664-241

Rev C

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-201 CHG003

PL 09-10-2

110

0.00



Pick Kit

Packaging

Packaging

Memo

0.00

Packaging

9/10/11 @ 50

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D212-664-241 using CNC bender program 212-af and Folio FT007

DD
9-9-23

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Page 2

Item ID: D212-664-201

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Revision ID: C

Item Name: Crosstube Aft

Start Date: 9/8/2009 Start Qty: 1.00

Required Date: 9/29/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00

QC

Memo

0.00

Quality Control

4P 09.09.24

140

Crosstubes

0.00

Crosstubes

Memo

0.00

Crosstubes

1-Drill pilot holes in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551

2-Ream hole to finish size in tube as per Dwg D212-664-241 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-241

4-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-241

AM/MB
09-09-24
- AWRM 9-9-24

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Item ID: D212-664-201

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes.

Chemical Conversion Coat as within 24 hours of bending and drilling

1 ~~0~~ - Awm 9-9-24

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

27 8 or 10/28

(40) d

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

27 8 or 10/28

(40) d

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Start Date: 9/8/2009 Start Qty: 1.00




Required Date: 9/29/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180  Outsource2	Outsource process - NDT per QSI038 4.1	0.00							
Outsource process - NDT	Memo Liquid Penetrant Inspection as per QSI 038 Issue P/O: 10482 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	0.00							CL 09/09/28 ①
190  Packaging	Receive & Inspect for Damage & Mat'l Certs	0.00							
Packaging	Packaging								
Packaging	Memo Ensure copy of NDT results attached to work order.	0.00							P 09/9/28 ①
200  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo Inspect for damage & ensure results are as per Dwg D212-664-241	0.00							MA 09 09 28 ①

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Item Name: Crosstube Aft

Start Date: 9/8/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/29/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

210

Spray Painting per QSI005 4.2

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 7:30

Finish Time: 8:30

PAINT:

Start Time: 3:00

Finish Time: 4:15

85 09-09-29

85 09-09-29

220

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

ml 09 09 30 (1)

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Item ID: D212-664-201

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Item Name: Crosstube Aft

Start Date: 9/8/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/29/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	Crosstubes	0.00				ml	09	09	30 ①
Crosstubes	Memo	0.00							
Crosstubes	1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe								
	2-Install supports with magnobond as per QSI 015, Adhere for for 12 Hrs								
	A/R 6398 Magnobond Batch: 111249								
	Expiry Date: 02/2010								
	3-Install clamps as per Dwg D212-664-241. Torque clamps to 80-100 in lb.					ml	09	10	01
240	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

=> 80/100 lb

④

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Start Date: 9/8/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 9/29/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 Packaging	Pick Kit	0.00							
	Memo	0.00				9/10/1		250	
	Packaging								
260 QC	QC4- 100% Inspect kits for completeness	0.00							
	Memo	0.00				250-10/01			
	Quality Control								
270 Packaging	Packaging	0.00							
	Memo	0.00				Rev E			
	Packaging								
	Identify and pack for shipping as per PPP D212-664-201					9/10/2		250	

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Required Date: 9/29/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/10/05 [Signature]

W 97-10-22

Picklist Print

Tuesday, September 08, 2009 3:06:24 PM

Page 1

Work Order ID: 51881

Parent Item: D212-664-201RevC

Parent Item Name: Crosstube Aft

Comments:

Start Date: 9/8/2009

Required Date: 9/29/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D212-664- 201TRNRevC		Manufactured	No			110	Each	3.0000	1.0000			



Crosstube Turning Detail



B-51220 MB 09-09-23

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FG	3	
46386	1	
50991	1	
51220	1	

D3595-063-530RevA Manufactured No



RUBBER CUSHION

230 Each 108.0000 2.0000



<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	108	
40780	2	
44998	2	
<u>50030</u>	104	

09 09 30

Picklist Print

Tuesday, September 08, 2009 3:06:24 PM

Work Order ID: 51881



Parent Item: D212-664-201RevC



Parent Item Name: Crosstube Aft

Start Date: 9/8/2009

Required Date: 9/29/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2940-1RevB 		Manufactured	No			230	Each	44.0000	2.0000			
Support												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	44	
24367	4	
25594	2	
<u>45203</u>	18	
47748	20	

m/ 09 09 30

MS21920-28



Purchased

No

230

Each

86.0000

4.0000



Clamp(per MIL-DTL-8783C)

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	5	
105884	5	
Main Warehouse		
ST	81	
106864	5	
108466	9	
108847	7	
109181	14	
109965	2	
111281	2	
<u>111734</u>	42	

m/ 09 09 30

Picklist Print

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Work Order ID: 51881



Parent Item: D212-664-201RevC



Parent Item Name: Crosstube Aft

Start Date: 9/8/2009

Required Date: 9/29/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3428-1RevA 		Manufactured	No			250	Each	31.0000	1.0000			
Placard												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST096

31

50790 ✓

31

MS21042L6

Purchased

No

250

Each

725.0000

6.0000

Nut

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

725

105077

22

110002

5

111548

98

111578

400

112492

200

1 / SD
9/10/1 SD

6 / SD

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Shop Packet Print

Page 3

Picklist Print

Tuesday, September 08, 2009 3:06:24 PM

Work Order ID: 51881



Parent Item: D212-664-201RevC



Parent Item Name: Crosstube Aft

Start Date: 9/8/2009

Required Date: 9/29/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD616		Purchased	No			250	Each	716.0000	18.0000			
Washer												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	716	
107242	3	
107959	6	
109371	8	
110704	23	
111193	10	
111607	4	
112314	662	

18 / 59

AN6-40A

Purchased

No

250

Each

4.0000

4.0000

Bolt

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	4	
112314	4	

112612 sl

9/10/1 500

Picklist Print

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Work Order ID: 51881



Parent Item: D212-664-201RevC



Parent Item Name: Crosstube Aft

Start Date: 9/8/2009

Required Date: 9/29/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

5

AN6-41A

Purchased

No

250

Each

53.0000

2.0000



Bolt



9/10/1 SP

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

53

111605

33

112489

20

111605 SP

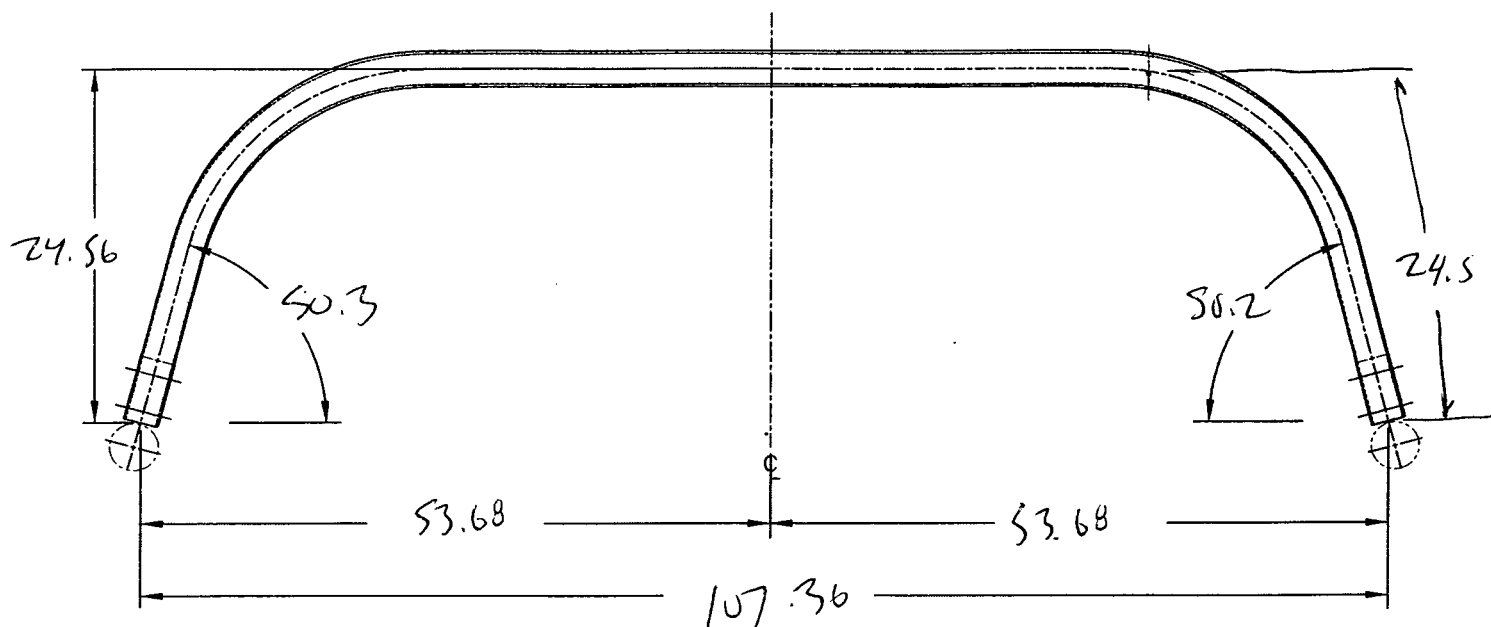
Tuesday, September 08, 2009 3:06:24 PM

Shop Packet Print

Page 5

DART AEROSPACE LTD		Work Order:	51881
Description: Crosstube High Aft (205/212)		Part Number:	D212-664-201
Inspection Dwg: D212-664-241 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	24.17	24.43
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments
Tube bent high. Acceptable <i>CP</i> 05.05.24

QC15 Inspection	<i>CP</i>
Date	05.05.24

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. C	KJ/JLM	

DART**RELEASED**
07.04.24 P
PER E.C.N. 0059**DEO ATTACHED**

DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>J</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D212-664-241	REV. C SHEET 1 OF 3
DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE NTS
A	00.12.12	NEW ISSUE	
B	05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	
C	07.03.08	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	

Qty	Part Number	Description
X	D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
1	D6006-129	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP (OR MS21920-30)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947- 100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.36 ± 0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 10) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1 SUPPORT ON TOP SIDE OF CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT
NOTE: MS21920-30 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 11) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

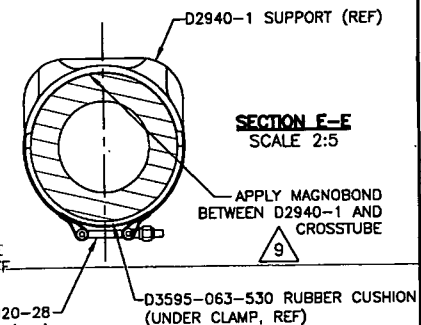
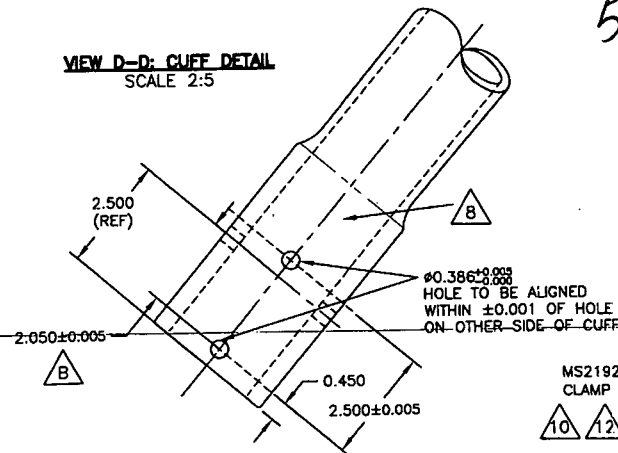
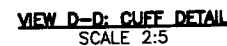
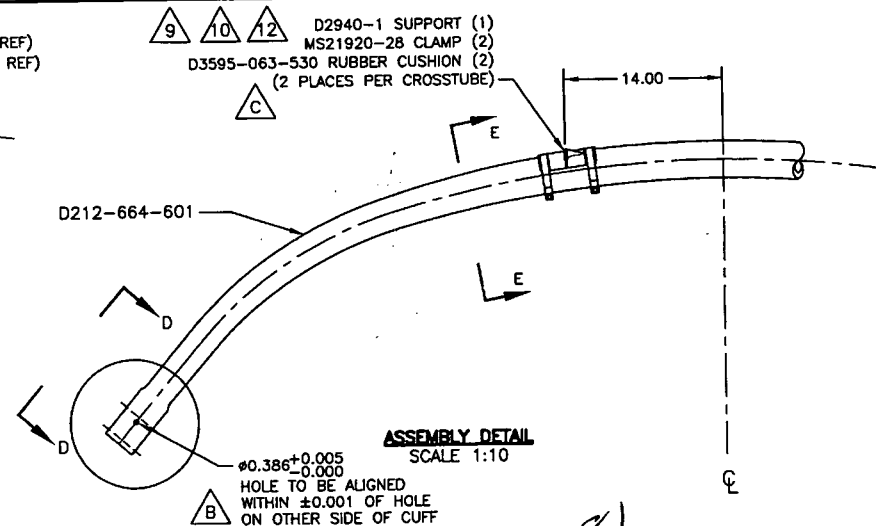
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO 51881






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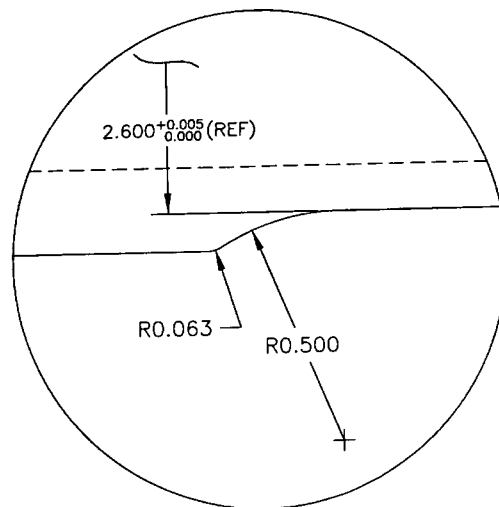
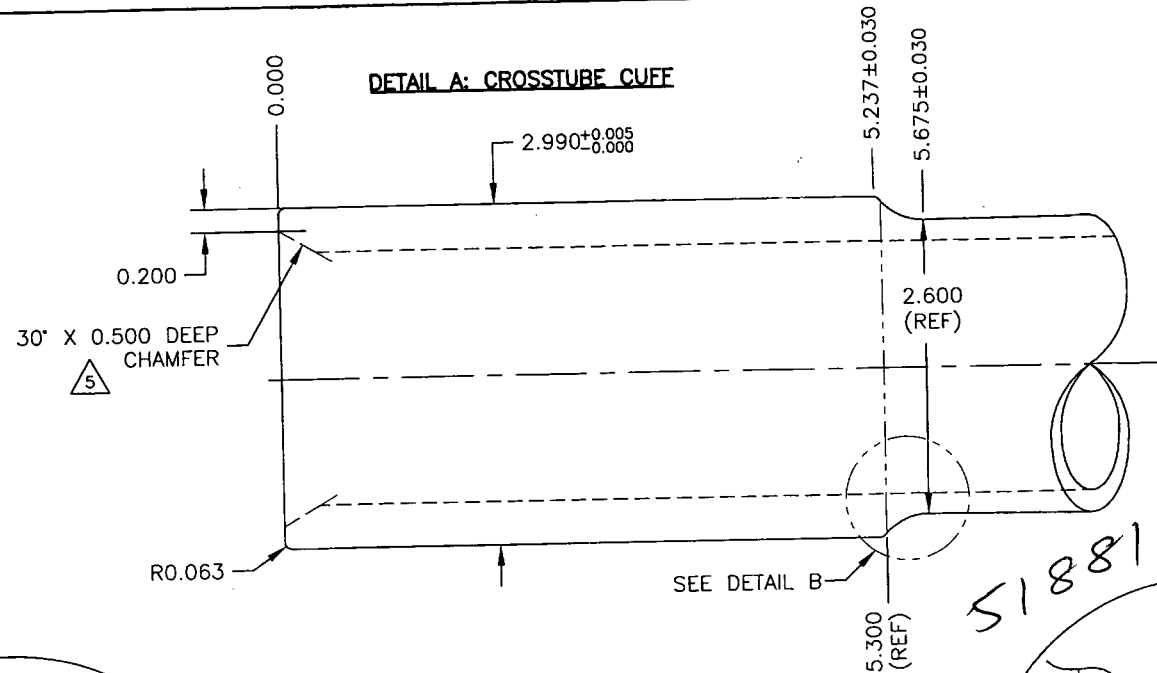
DEO ATTACHED

COPYRIGHT © 2000 BY DART AEROSPACE LTD.	DESIGN 	DRAWN BY 		DART AEROSPACE LTD. RUMBLEBURG, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	CHECKED 	APPROVED 	DRAWING NO. D212-664-241	REV. C SHEET 2 OF 3
	DATE 07.03.08		TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	SCALE 1:10

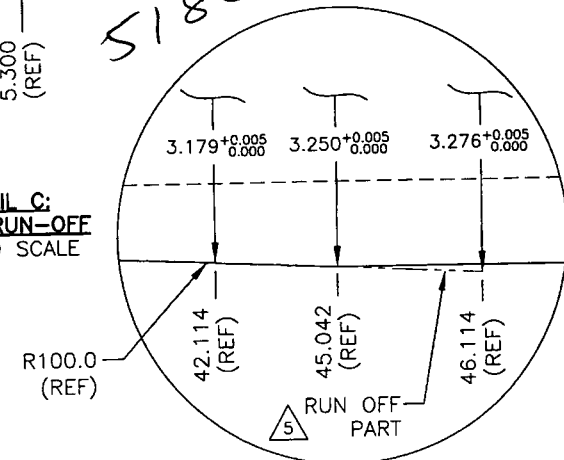
51881

RELEASED
07.04.24
7122 85-1385

DEO ATTACHED



DETAIL C: TAPER RUN-OFF
NOT TO SCALE



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DESIGN

PH

DRAWN BY

PH

CHECKED

PH

DATE

07.03.08

APPROVED

PH

DARTDART AEROSPACE LTD.
MARKESBURY, ONTARIO, CANADA

DRAWING NO.

D212-664-241

TITLE

CROSSTUBE ASS'Y (205/212 HI AFT)

REV. C

SHEET 3 OF 3

SCALE

1:1

DRAWING NO. D212-664-241	TITLE CROSSTUBE	REV. C	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D212-664-241-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>RT</i>	MFG. APPR. <i>E</i>	APPROVED <i>MD</i>	DE APPR. <i>RT</i>		
DATE 09.05.01	DATE 09.06.15	DATE 09.06.15	DATE 09/06/16	DATE 09/06/16		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)

THE D212-664-241B CROSSTUBE HAS THE SAME PARTS LIST AS THE D212-664-241 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D212-664-241 CROSSTUBE.

RELEASED
09/06/22 *MD*

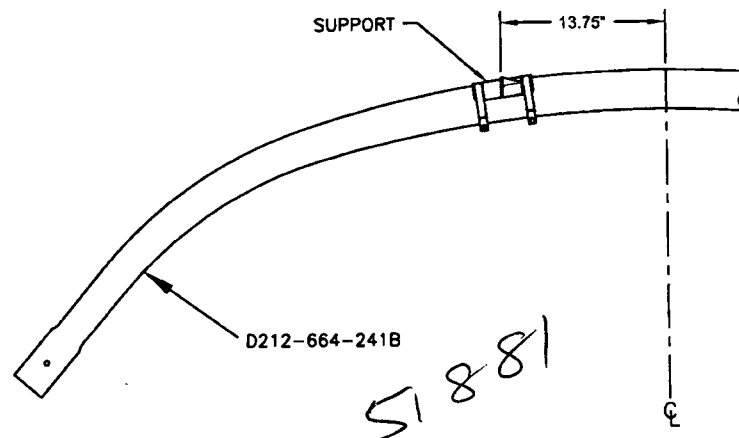


FIGURE 1 - SUPPORT INSTALLATION

5.0 PARTS LIST

REFERENCE ONLY

5.1 HIGH GEAR CROSSTUBES

Item	-101	-201	-203	Part Number	Description
	X			D212-664-101	CROSSTUBE INSTALLATION, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
		X		D212-664-201	CROSSTUBE INSTALLATION, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
			X	D412-664-203	CROSSTUBE INSTALLATION, 412 HIGH AFT
1	1			D212-664-141	CROSSTUBE ASSEMBLY, 204/205/210/212/214/412, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH FWD
2		1		D212-664-241	CROSSTUBE ASSEMBLY, 204/205/210/212/214, UH-1H, UH-1A/B/E/F/L/P, TH-1F/L, HH-1K HIGH AFT
3			1	D412-664-243	CROSSTUBE ASSEMBLY, 412 HIGH AFT
10	2			* D2893-1	SUPPORT
11	4			* D3595-063-450	RUBBER CUSHION
12	4			* MS21920-25	CLAMP (OR MS21042-26)
13	4			AN6-35A	BOLT
14	4			AN6-36A	BOLT
15	6			MS21042L6	NUT (OR MS21042-6)
16	18			AN960JD616	WASHER
20		2		* D2940-1	SUPPORT
21		4		* D3595-063-530	RUBBER CUSHION
22		4		* MS21920-28	CLAMP (OR MS21042-30)
23		4		AN6-40A	BOLT
24		2		AN6-41A	BOLT
25		6		MS21042L6	NUT (OR MS21042-6)
26		18		AN960JD616	WASHER
30			1	* D2896-1	SUPPORT
31			2	* D2856-600-1009	ABRASION STRIP
32			2	* D3595-063-570	RUBBER CUSHION
33			4	* MS21920-28	CLAMP
34			2	* MS21920-30	CLAMP (OR MS21042-32)
35			4	AN6-40A	BOLT
36			2	AN6-41A	BOLT
37			6	MS21042L6	NUT (OR MS21042-6)
38			18	AN960JD616	WASHER
39			2	* D3189-1	CHAFING SHIELD
50	1	1		D3428-1	PLACARD

*REFERENCE ONLY. PARTS ARE INCLUDED IN D212-664-141/-241 OR D412-664-243 ASSEMBLIES ABOVE
NOTE: KITS INCLUDE EXTRA HARDWARE FOR COMPATIBILITY WITH BOTH DART AND BELL/AA
SKIDTUBES.

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Revision: F
Date: 08.09.05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 14954

ION DINT AEROSPACE DATE SEPT 28-2009 PAGE 1 OF 1
S LINDA/CHANTEL ACUREN JOB NO. 188-09-001561 TIME AM ☒ PM ☐
S 1270 ABELDEEN ST. PO/NO. - 10482
S HAWKES BURY ON. WORK LOCATION HAWKES BURY
S KGH 2K7 ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
T F.P.I. ON MACHINED PARTS AND
EXAMINED CROSS TUBES.

DESCRIPTION STAINLESS STEEL AND PROCEDURE No. LT-0002 REV./DATE 2007 TECHNIQUE No. LT-0002 REV./DATE 2007
D. WET FLUORESCENT LIQUID PENETRANT INSPECTION MATERIAL ALUMINUM THICKNESS -
CARRIED OUT 100% EXTERNAL

DETAILS
D. ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
BRAND 2667 - MAGNA FLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
ANT 2667 MINIMUM DWELL TIME 10 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
ANT REMOVER H2O MINIMUM DRY TIME > 10 MIN. OTHER LABINO
PER SKD 52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N - CAL DUE DATE 02-8-2009
PER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

SURFACE
E CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
E TEMPERATURE ☐ < -4°C/20°F ☐ -4°C/20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F
TS- ☒ METRIC ☐ IMPERIAL

- W.O. 51882 - CROSS TUBE ✓	<p>- AN INSPECTION WAS DONE ON W.O. 52470 - ONE ITEM WAS REWORKED DUE TO HOLE SIZE AT BRACKET.</p> <p>- EXAMINATION OF THIS AREA WAS CARRIED OUT AND RESULTS AS FOLLOWS</p> <p>- FOUND ACCEPTABLE TO CODE</p> <p>MM 09 09 28</p>
- W.O. 51881 - CROSS TUBE ✓	
- W.O. 52334 - CROSS TUBE ✓	
- W.O. 52335 - CROSS TUBE ✓	
- W.O. 52495 - MOUNTS ✓	
- W.O. 51096 - MOUNTS ✓	
- W.O. 51097 - MOUNTS ✓	

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REPRESENTATIVE Eric Downing DTR # E-27840
DIAN (SIGNATURE): [Signature] SIGNATURE
TECHNICIAN (PRINT): Mike Johnston 1ST TECHNICIAN
CGSB LEVEL 2 SNT LEVEL 2 CGSB LEVEL 2 SNT LEVEL 2
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